Transportation Analysis

CSAH 3 (Excelsior Blvd.) from TH 100 to TH 121
TH 7 from Wooddale Ave. to E. Lake Calhoun Pkwy.
TA-M319



PREPARED BY
THE MINNESOTA DEPARTMENT OF TRANSPORTATION
PROGRAM MANAGEMENT DIVISION
TRAFFIC AND COMMODITIES SECTION

SF-00006-03

STATE OF MINNESOTA

DEPARTMENT of Transportation
Room 820

Office Memorandum

TO: Carl J. Hoffstedt
Transportation Planning Engineer
District 5 - Golden Valley

DATE: October 2, 1984

FROM: Allan Pint
Traffic Forecast Engineer
Traffic Forecast Unit

PHONE: 296-0217

SUBJECT: CSAH 3 (Excelsior Blvd.) from TH 100 to TH 121
TH 7 from Wooddale Ave. to E. Lake Calhoun Pkwy.
TA-M319

Estimated Average Weekday Traffic (AWDT) and peak hour volumes for the year 2005 are shown on the attached schematic turning movements for the above subject routes, i.e. CSAH 3 and TH 7. In addition, this report contains a year 2005 schematic turning movement for the TH 100 - W. 36th St. interchange.

Figures 1 and 2 present estimated Heavy Commercial Average Weekday Traffic (HCAWDT) percentages of AWDT for CSAH 3 and TH 7 respectively.

Estimated yearly compound growth rates from the base year (2005) are:

1) CSAH 3 - 1.75%
2) TH 7 - 1.50%

The attached tables 1 thru 4 present current day (1982) hourly distributions and directional splits of total traffic volumes on the two subject routes (CSAH 3 and TH 7) which can be used in the forecast year.

Table 5 presents 1978 medium and heavy truck percentages of two way ADT by hour which can be applied to the forecast year AWDT on CSAH 3 and TH 7.

Volumes and percentages shown for the year 2005 are based on the following data sources:

1) Year 2000 AWDT, HCAWDT and PM peak hour zone to zone vehicle movements assigned to the future (2000) System 3E computer road network.

2) Mn/DOT report TAR-M267, published in January of 1981, which contains estimated ADT and peak hour traffic projections for the year 2000 on TH 100 from CSAH 3 to CSAH 5.

3) Mn/DOT report TA-M307, published in February of 1984, which contains estimated AWDT and peak hour traffic projections for the year 2000 on TH 394 and TH 100 from TH 7 to TH 394.

4) "Current" traffic counts:

   a) Mn/DOT 1982 ADT Flow Map Volumes

   b) MSAS ADT volumes prepared by the cities of Minneapolis, St. Louis Park, and Edina in 1979, 1981, and 1983.

   c) Twenty four hour counts with hourly breakdowns taken by District 5 at various locations on both routes during the Summer of 1982.

   d) Short turning movement counts taken at all the intersections shown in the report, except TH 100 at TH 7 and CSAH 3, during the summer of 1984.

   e) All available vehicle class counts.

   f) Historical ADT counts taken by Mn/DOT on CSAH 3 and TH 7.

5) Field trips to the subject area in order to:

   a) Take short turning movement counts.

   b) Determine the location and strength of the present day developments in the area which generate traffic, e.g. dwelling units, shopping sites, office and industrial sites.

   c) Note location of undeveloped land, i.e. land that is developable by the year 2005.

6) The Barton-Aschman memorandum of August 18, 1983 from Deane M. Wenger to the City of Minneapolis on the proposed residential development to be located between Excelsior Boulevard and Lake Street west of Market Plaza in Minneapolis. The volumes shown in the Barton-Aschman study and TA-M319 reflect the

assumption that approximately 700 dwelling units will be constructed on the site.

7) Projected peak hour volumes in this report (TA-M319) are in basic agreement with independent forecasts prepared by the District 5 traffic forecast engineer (Bob Brown) in the vicinity of the Market Plaza Development.

The future year 2000 System 3E computer road network contains two major new routes which affect projected traffic loadings on CSAH 3, TH 7 and TH 100. These routes are:

1) TH 394 from TH 494 to Washington Avenue in Downtown Minneapolis.

2) CSAH 18 from CSAH 5 to the Minnesota River.

The volumes shown in this report (TA-M319) reflect these System 3E computer road network assumptions.

Comparisons between System 3E year 2000 computer assigned AWDT and "current" counts on the two subject routes (CSAH 3 and TH 7) show a reduction in traffic by the year 2000.

Therefore, the following procedure was used to develop the projected 2005 AWDT volumes presented in this report:

1) Determine estimated 1984 AWDT turning movement volumes at all intersections presented in this report by expanding short counts to twenty four hour volumes based on the twenty four hour main line counts with hourly breakdowns taken by District 5 and by using other recent ADT counts as a guide.

2) Determine estimated expansion factors to apply to the 1984 AWDT to expand to the year 2005 based on straight line projections of recent (1972-1982) historical ADT counts on the two subject routes.

3) Apply these expansion factors to the 1984 AWDT to obtain 2005 AWDT.

4) Adjust the 2005 AWDT so that volumes on the routes match at points of commonality.

Peak hour and HCAWDT percentages of AWDT were based on year 2000 System 3E computer assigned percentages and current count percentages. In addition, field trips to the area were helpful in these determinations.

It should be pointed out that the AM peak hour volumes presented in this report were determined by reversing the PM peak hour figures, e.g. AM peak hour westbound = PM peak hour eastbound.

Note that this report does not assume that Ottawa has been extended across the railroad tracks south of TH 7 to connect with Beltline Blvd. and Monterey. In addition, both France Ave. (TH 121) and Market are assumed to be as they are at present (1984) in the year 2005.

We are presently in the process of determining future year 2005 traffic volumes for the three alternative design configurations regarding Ottawa, France Avenue and Market. These volumes will be transmitted in a separate report, i.e. TA-M319A.



Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location TH 100 and CSAH3

System _____

SPAR m-319 Date 9-84

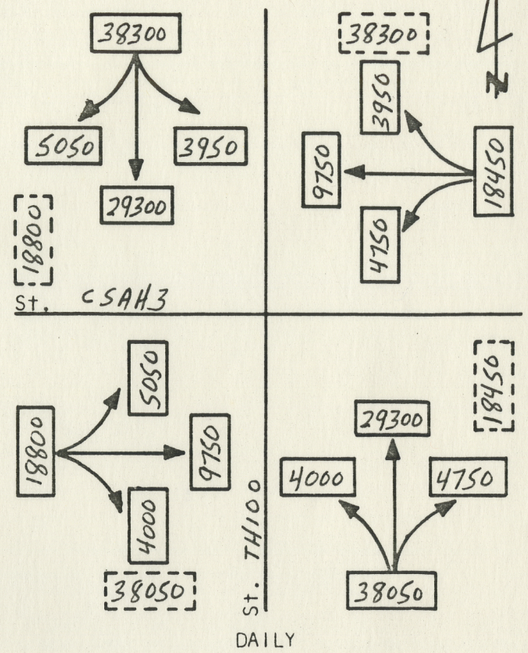
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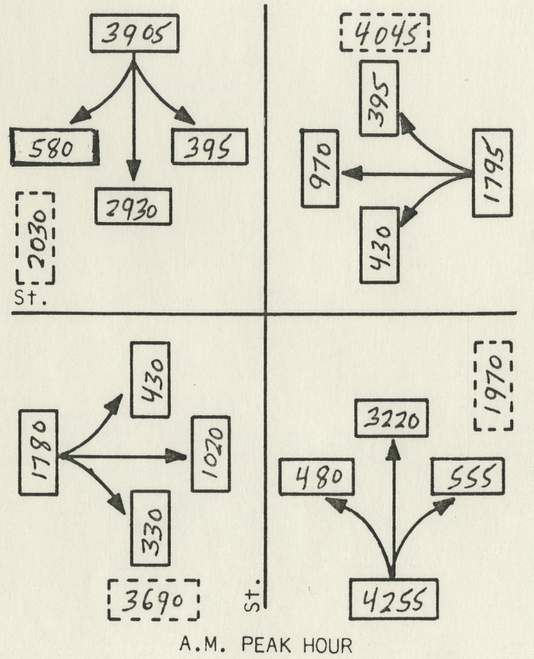
Computer Output ___

Analysis X

Traffic Count ___

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location WOODDALE and CSAH3

System _____

SPAR M-319 Date 9-84

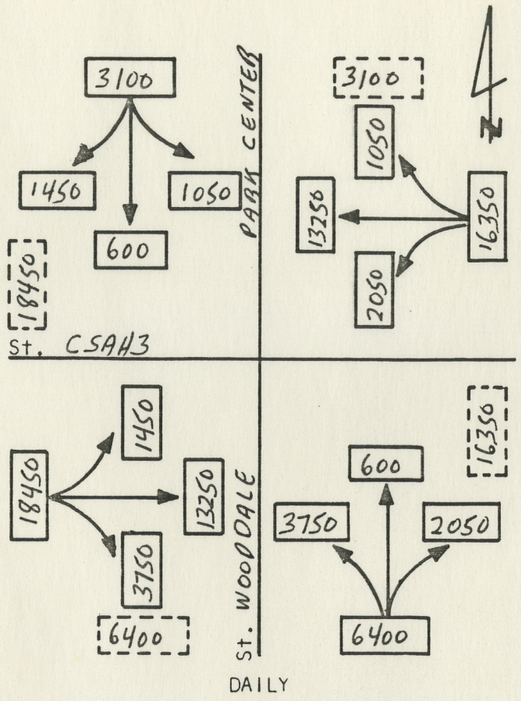
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Computer Output ____

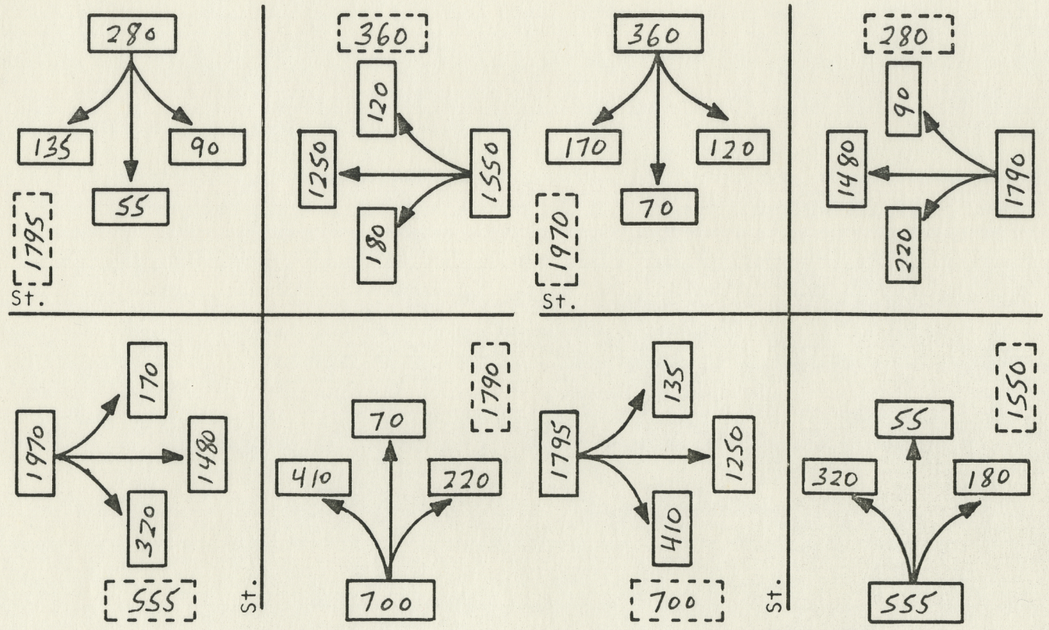
Analysis X

Traffic Count ____

COMMENTS: _____



DAILY



A.M. PEAK HOUR

P.M. PEAK HOUR

Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location QUENTIN and CSAH3

System _____

SPAR M-319 Date 9-84

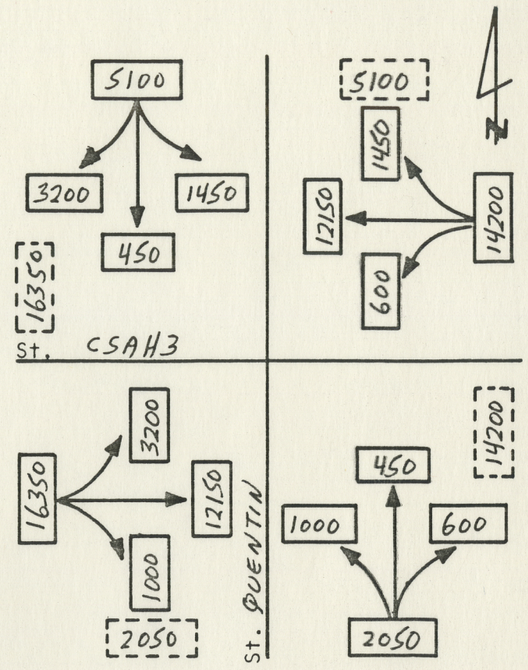
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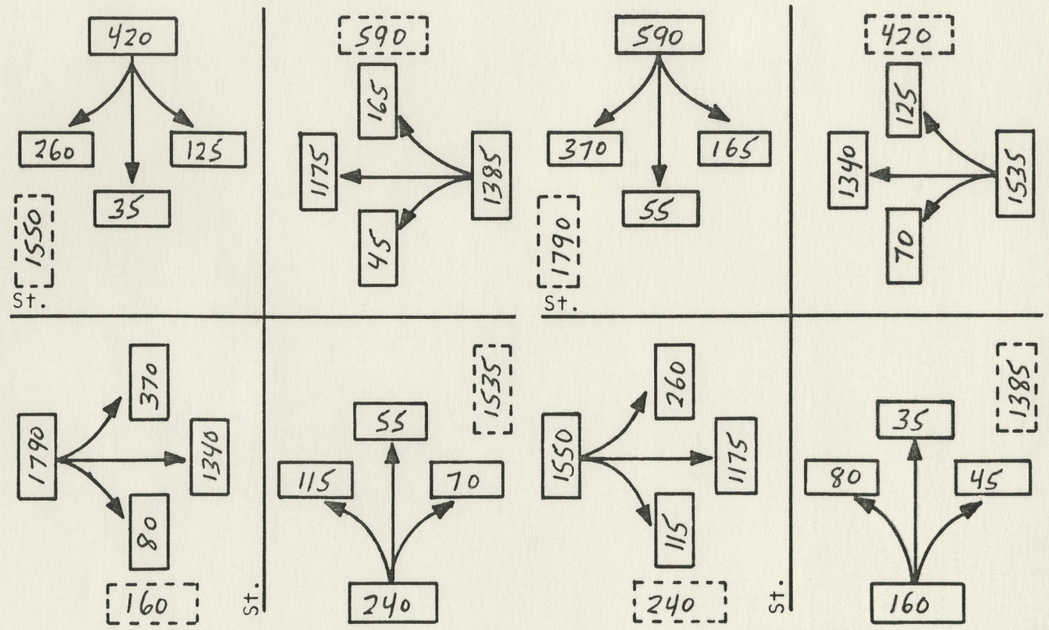
Analysis X

Traffic Count ____

COMMENTS: _____



DAILY



A.M. PEAK HOUR

P.M. PEAK HOUR

Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location 38TH ST. and CSAH3

System _____

SPAR M-319 Date 9-84

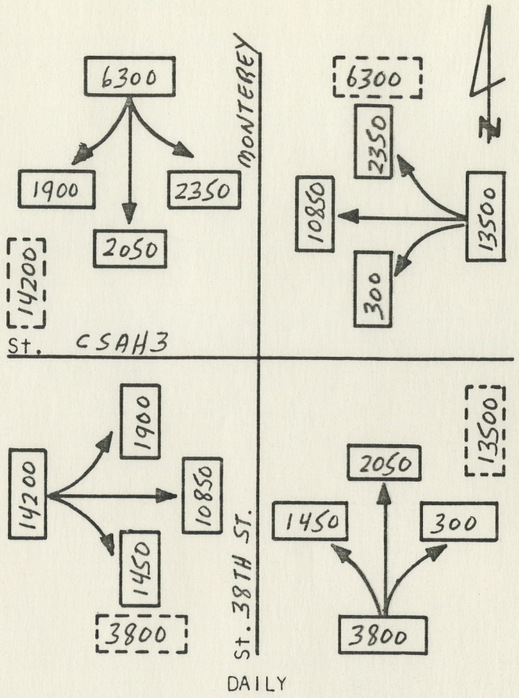
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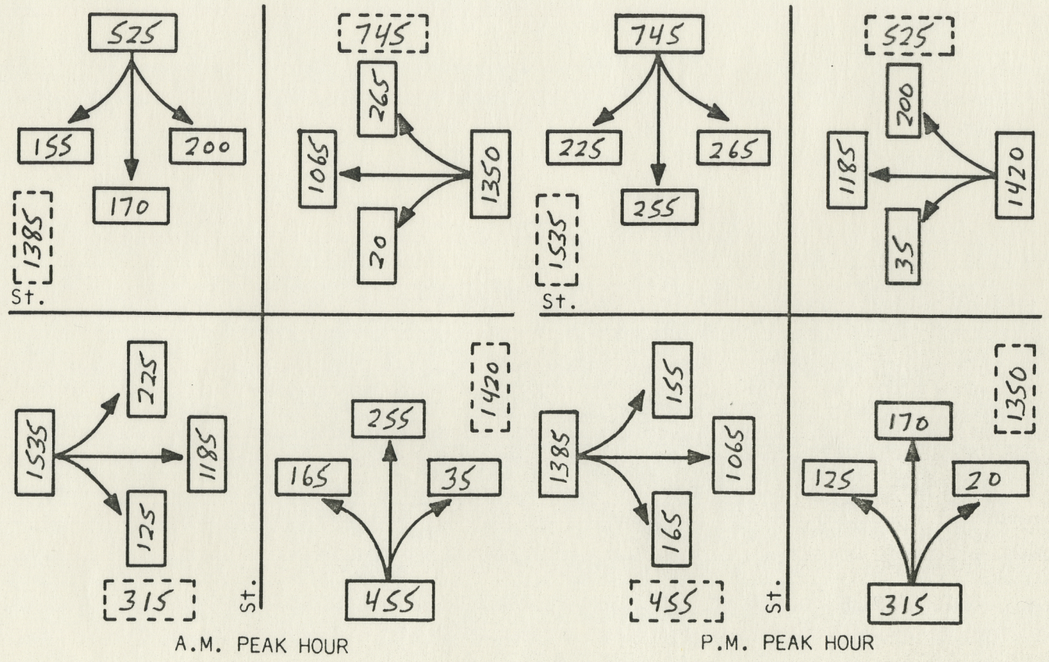
Computer Output ____

Analysis X

Traffic Count ____

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location TH121 and CSAH3

System _____

SPAR M-319 Date 9-84

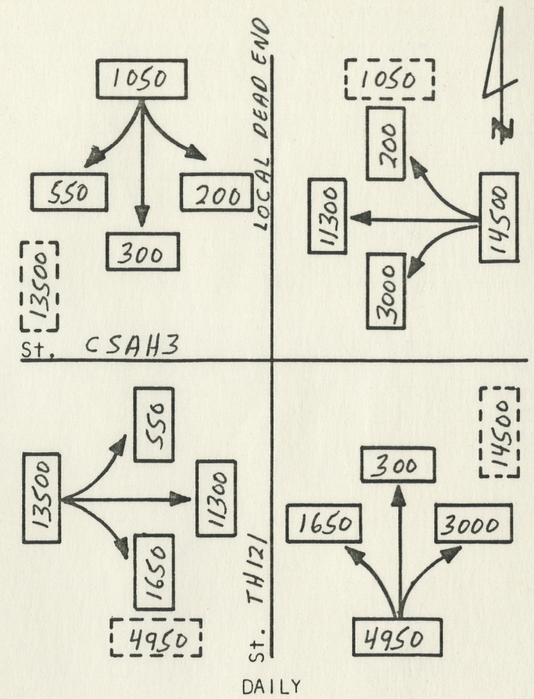
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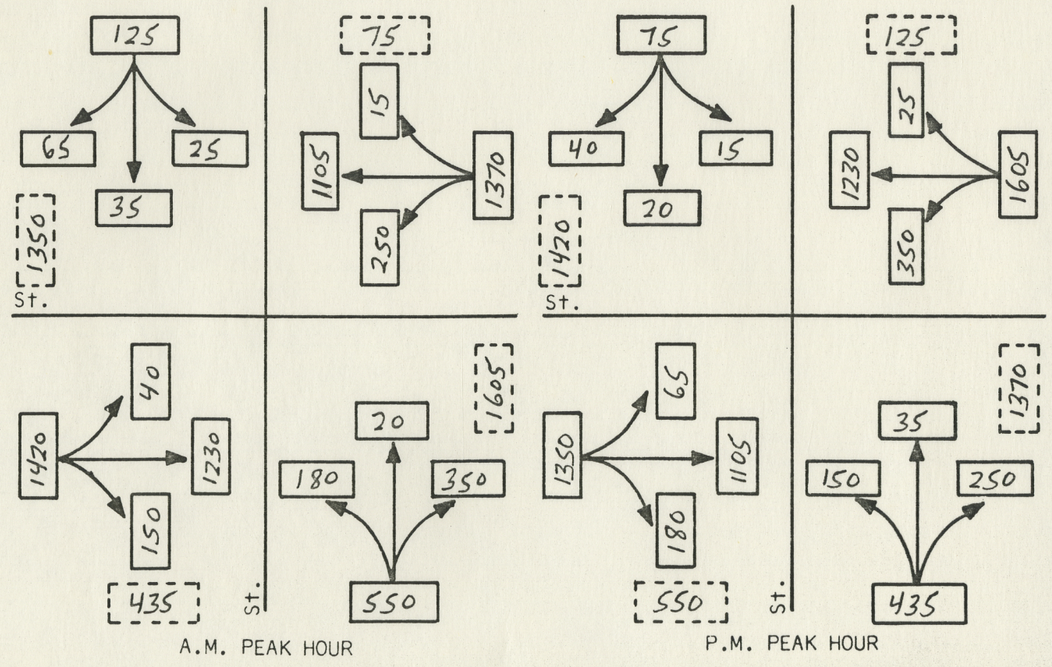
Computer Output ____

Analysis X

Traffic Count ____

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location WOOD DALE and TH7

System _____

SPAR M-319 Date 9-84

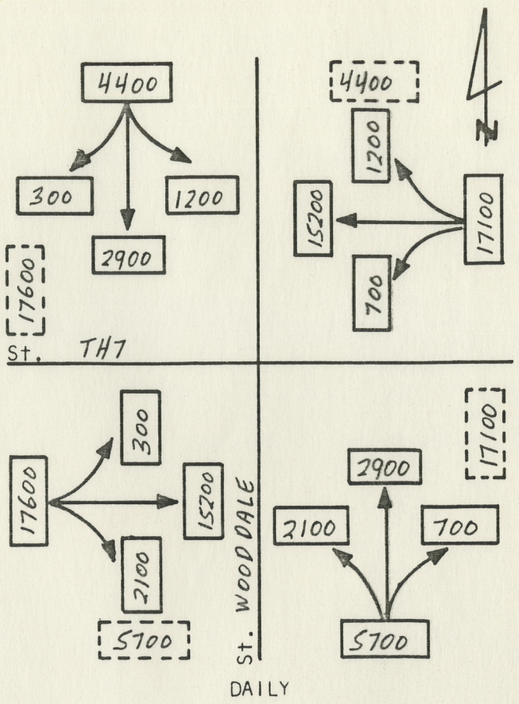
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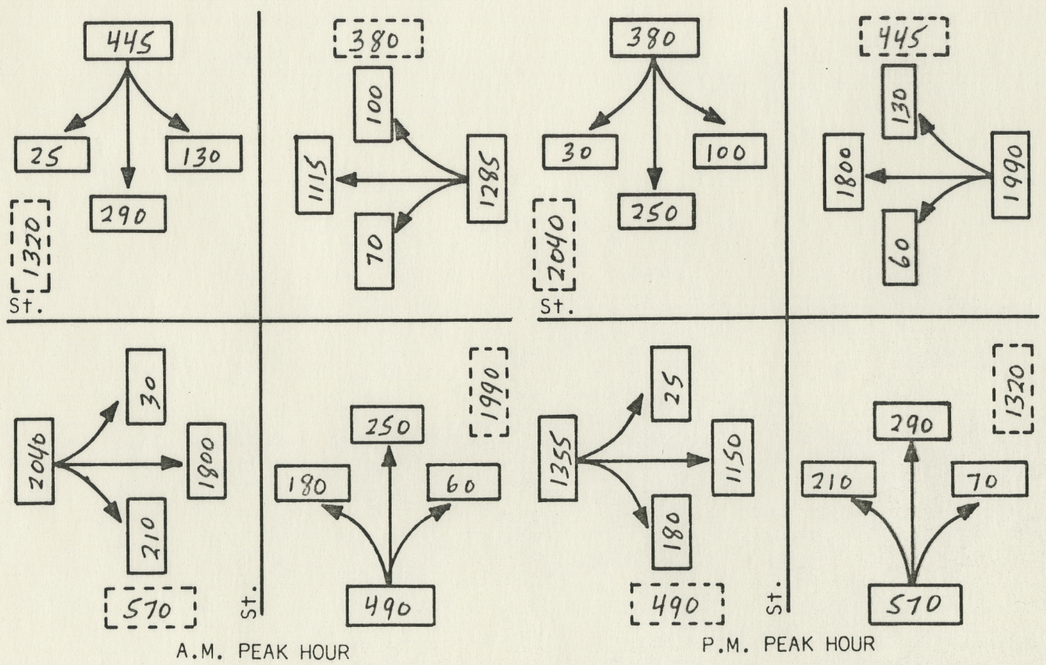
Computer Output ____

Analysis X

Traffic Count ____

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location TH 100 and TH7

System _____

SPAR M-319 Date 9-84

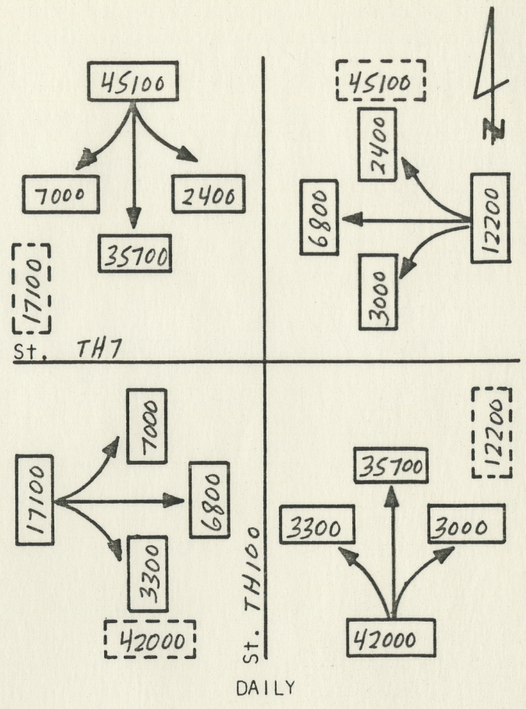
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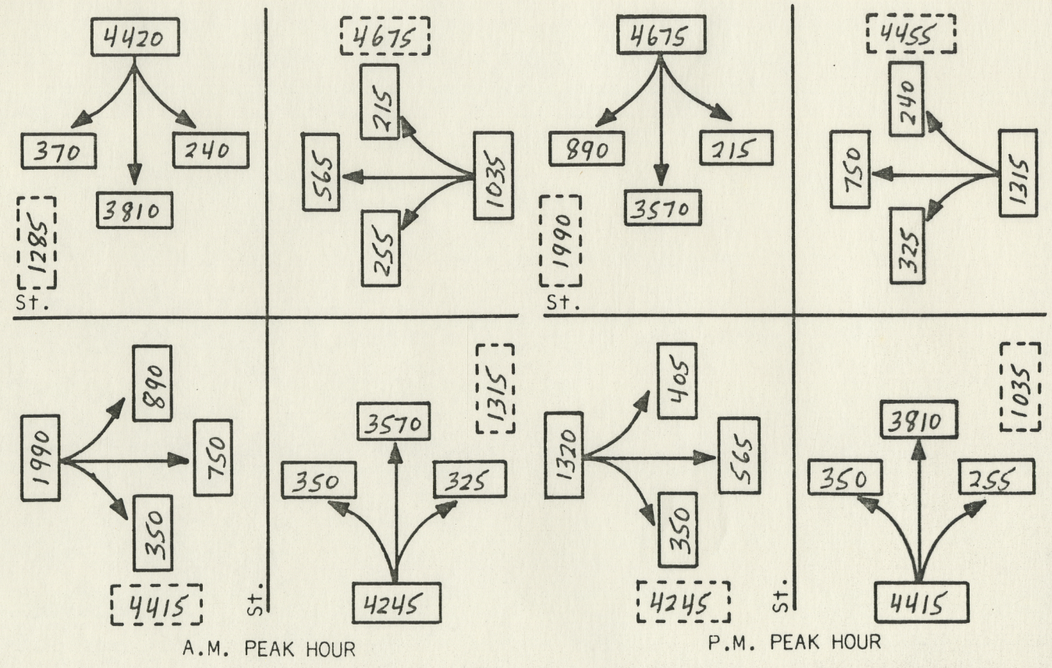
Computer Output ____

Analysis X

Traffic Count ____

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location OTTAWA and TH7

System _____

SPAR M-319 Date 9-84

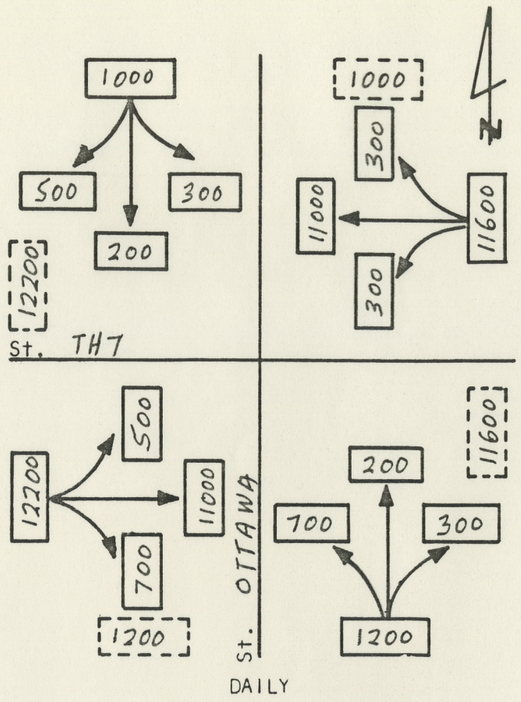
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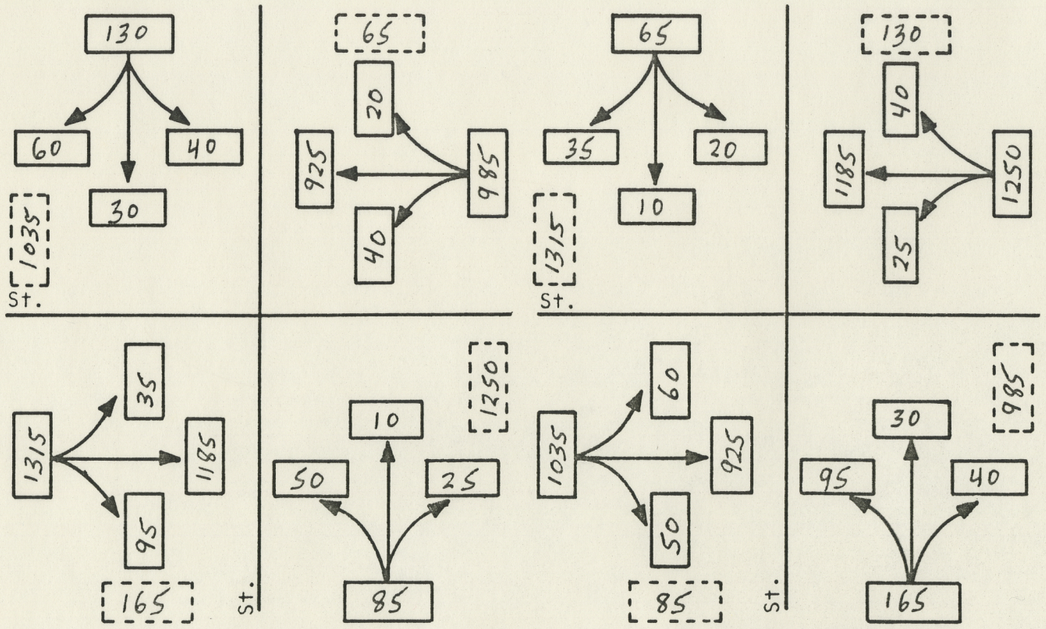
Analysis X

Traffic Count ____

COMMENTS: _____



DAILY



A.M. PEAK HOUR

P.M. PEAK HOUR

Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location CSAH5 and TH7

System _____

SPAR M-319 Date 9-84

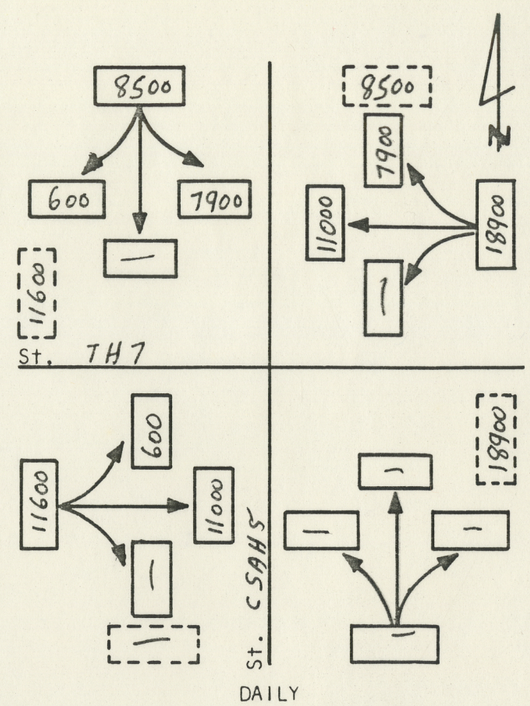
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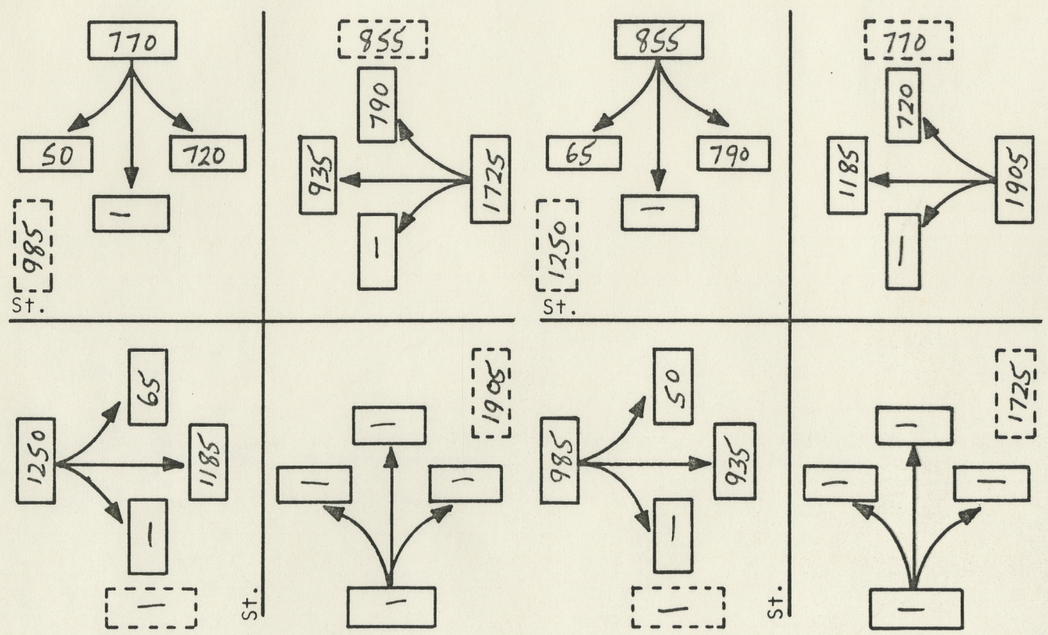
Analysis X

Traffic Count ____

COMMENTS: _____



DAILY



A.M. PEAK HOUR

P.M. PEAK HOUR

Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location FRANCE and TH7

System _____

SPAR M-319 Date 9-84

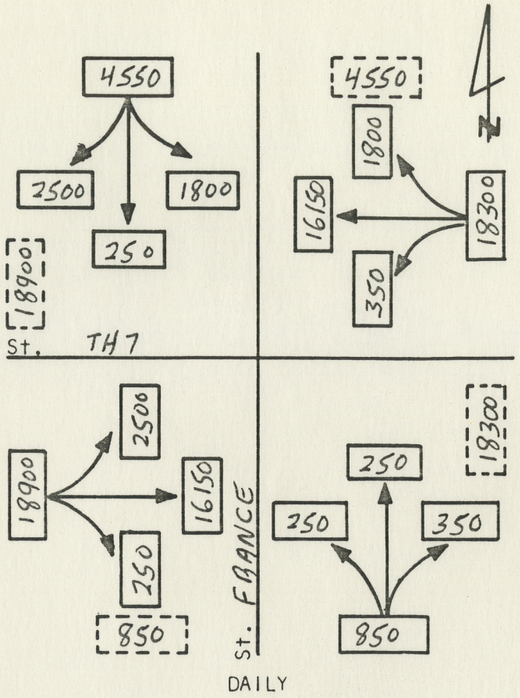
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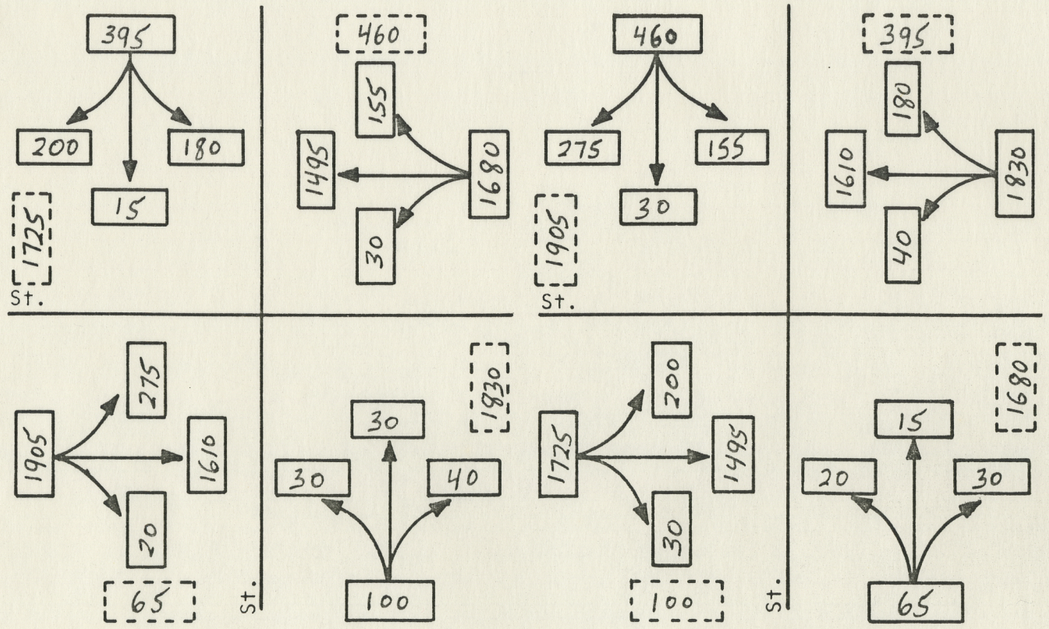
Analysis X

Traffic Count ____

COMMENTS: _____



DAILY



A.M. PEAK HOUR

P.M. PEAK HOUR

Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location OAEW and TH7

System _____

SPAR M-319 Date 9-84

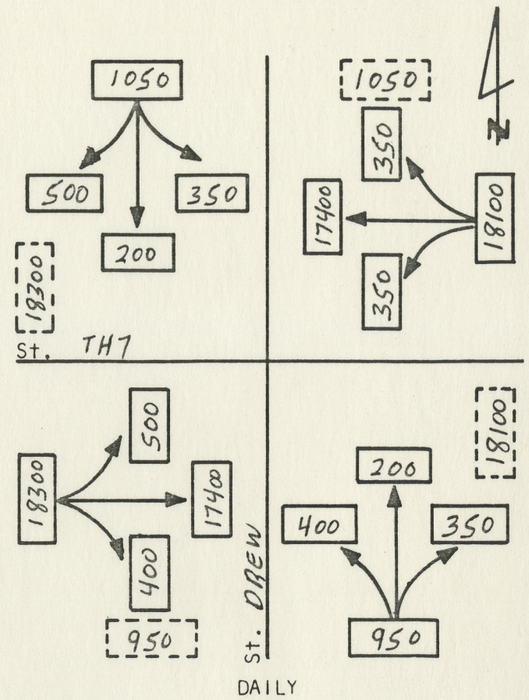
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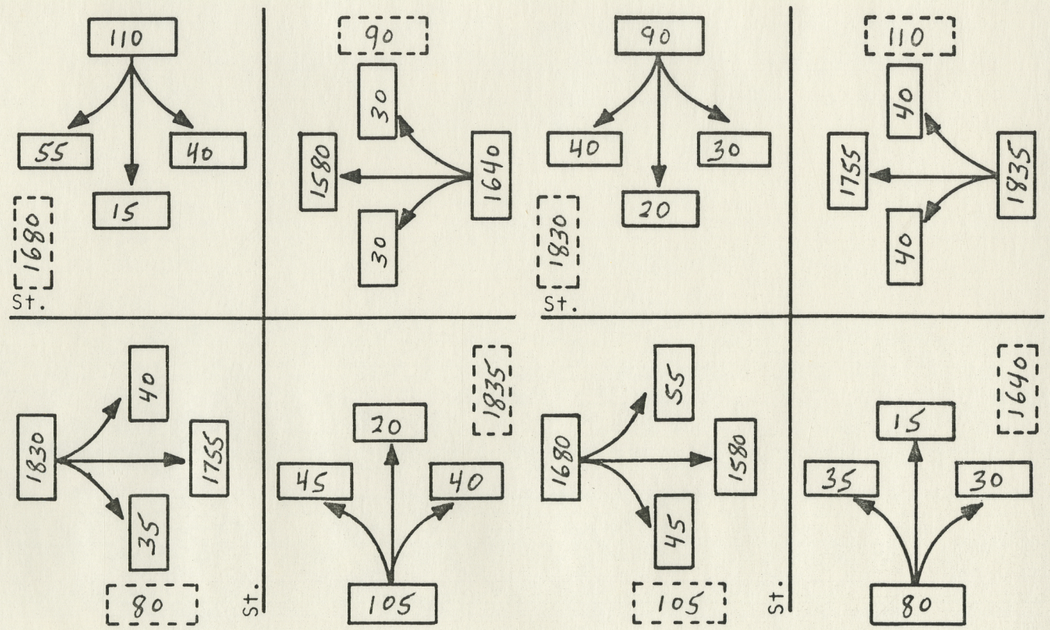
Analysis X

Traffic Count ____

COMMENTS: _____



DAILY



A.M. PEAK HOUR

P.M. PEAK HOUR

Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location MARKET and TH7

System _____

SPAR M-319 Date 9-84

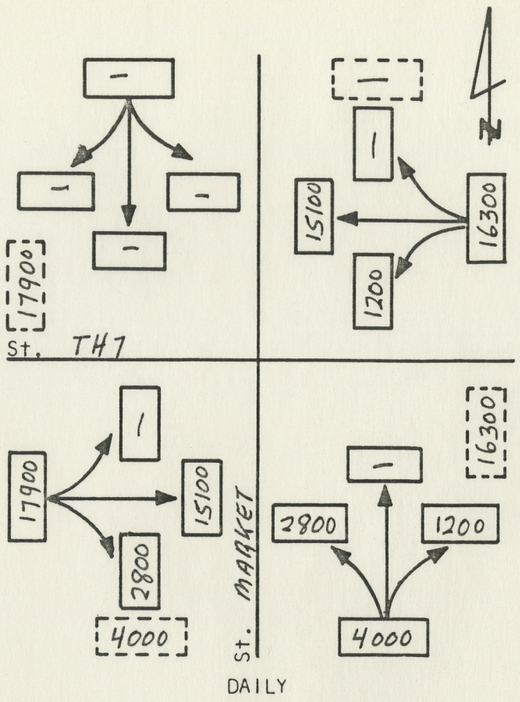
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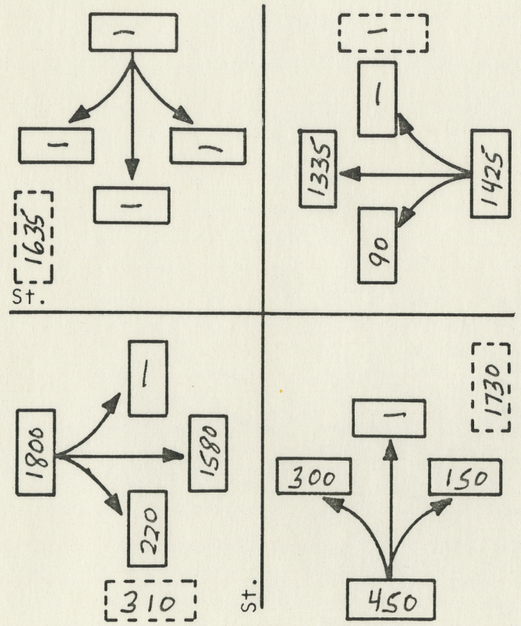
Computer Output ____

Analysis X

Traffic Count ____

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location CSAH3 and TH7

System _____

SPAR M-319 Date 9-84

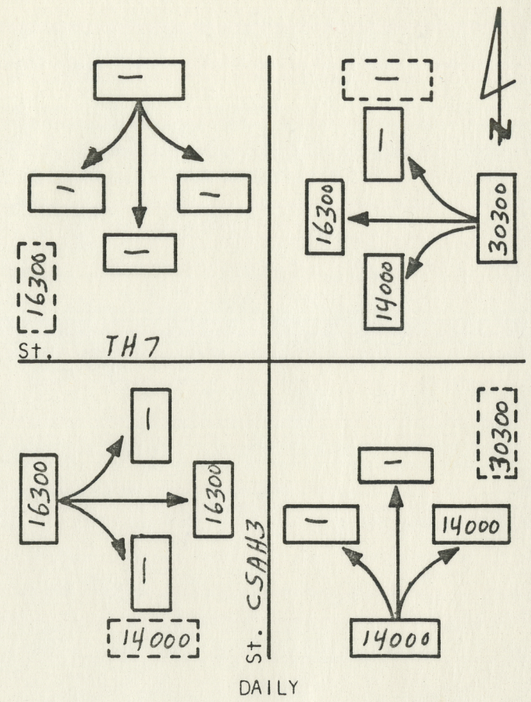
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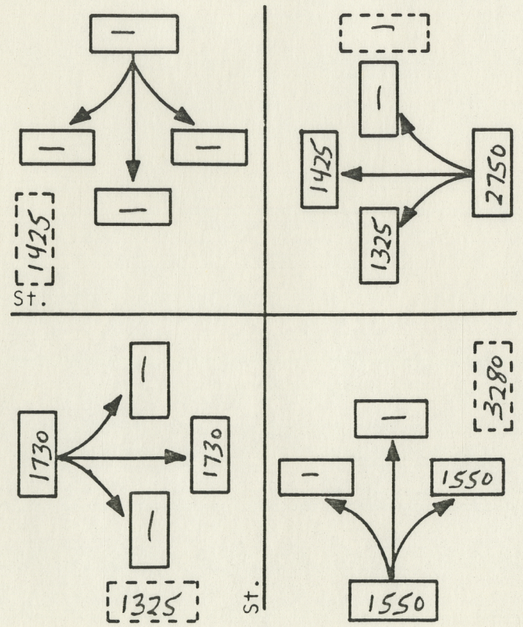
Computer Output ____

Analysis X

Traffic Count ____

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location W. LK. CALHOUN PK and TH 7

System _____

SPAR M-319 Date 9-84

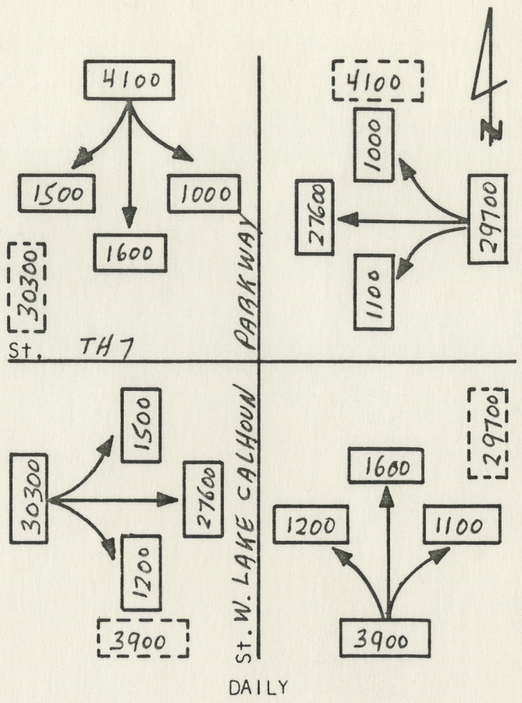
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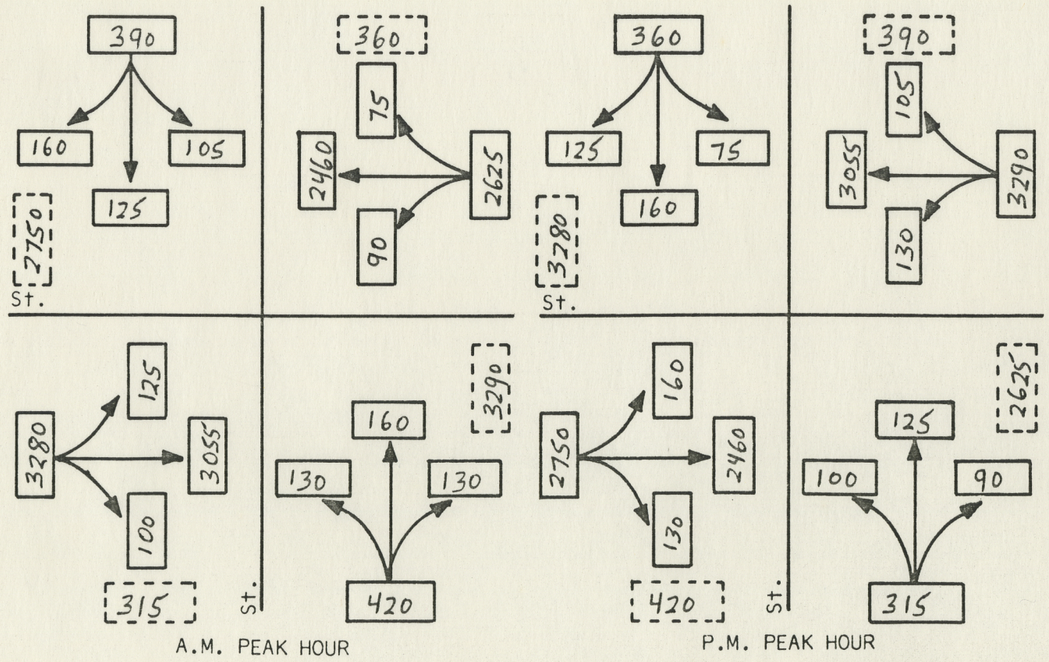
Computer Output ____

Analysis X

Traffic Count ____

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location E. LK. CALHOUN PK and TH 7

System _____

SPAR M-319 Date 9-84

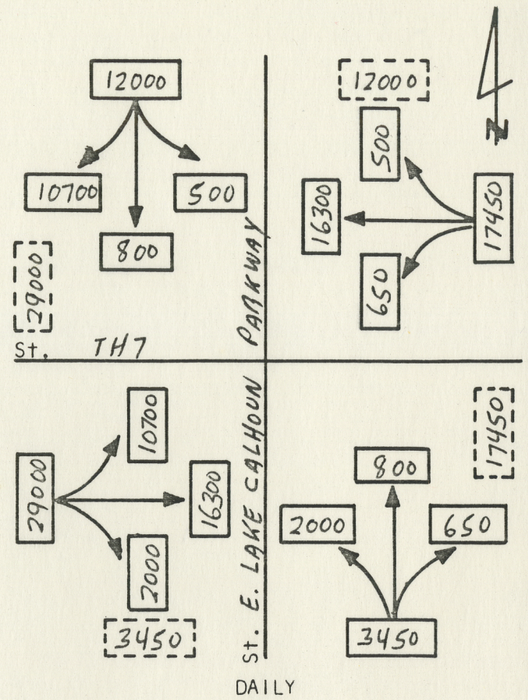
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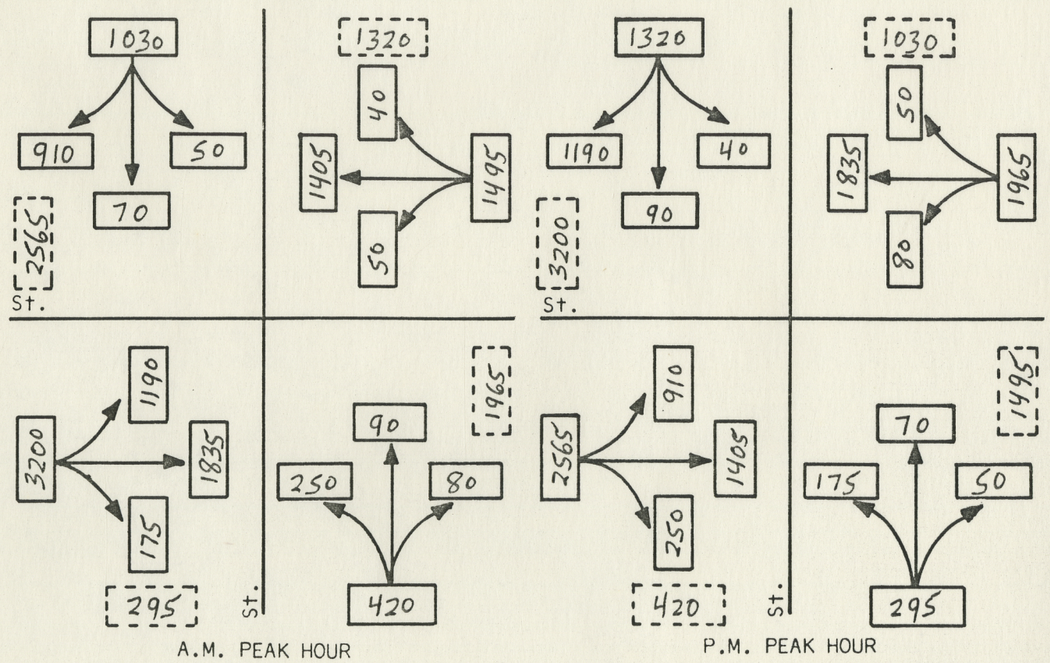
Computer Output ____

Analysis X

Traffic Count ____

COMMENTS: _____





Mn/DOT 29131 (6-78)

SCHEMATIC TURNING MOVEMENT

Year 2005 Traffic Volumes

City or County _____

Location TH100 and W. 36TH

System _____

SPAR M-319 Date 9-84

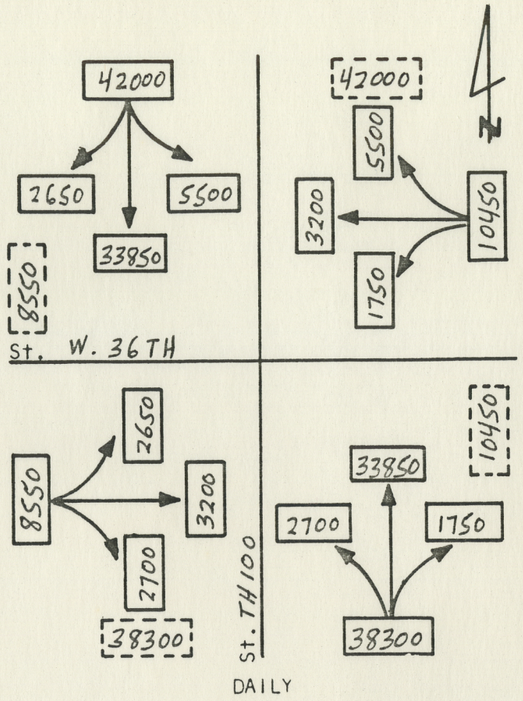
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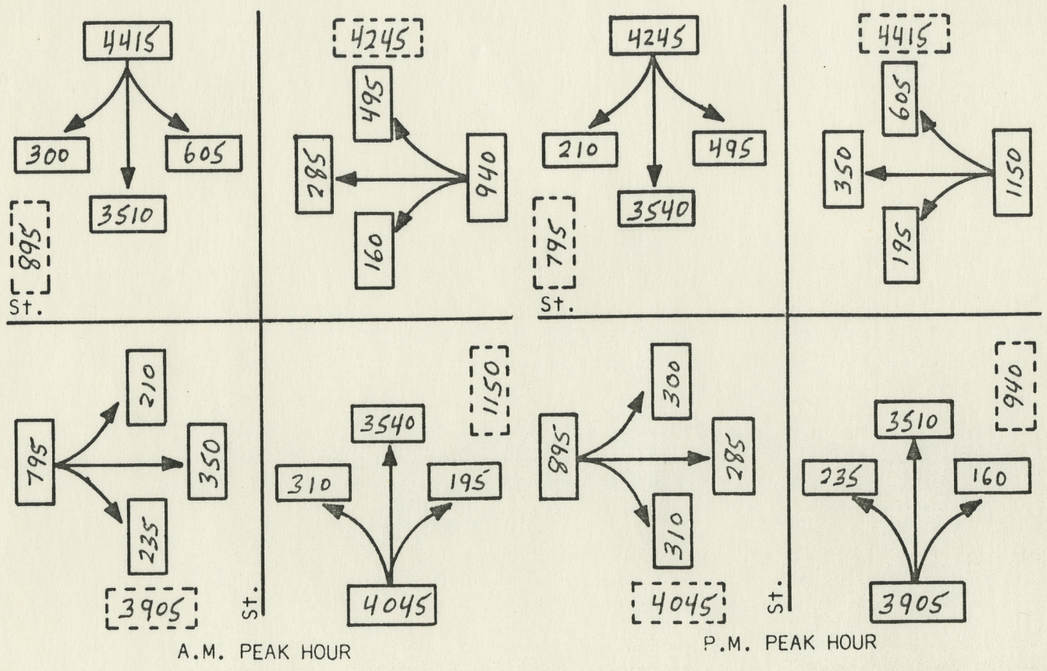
Computer Output ____

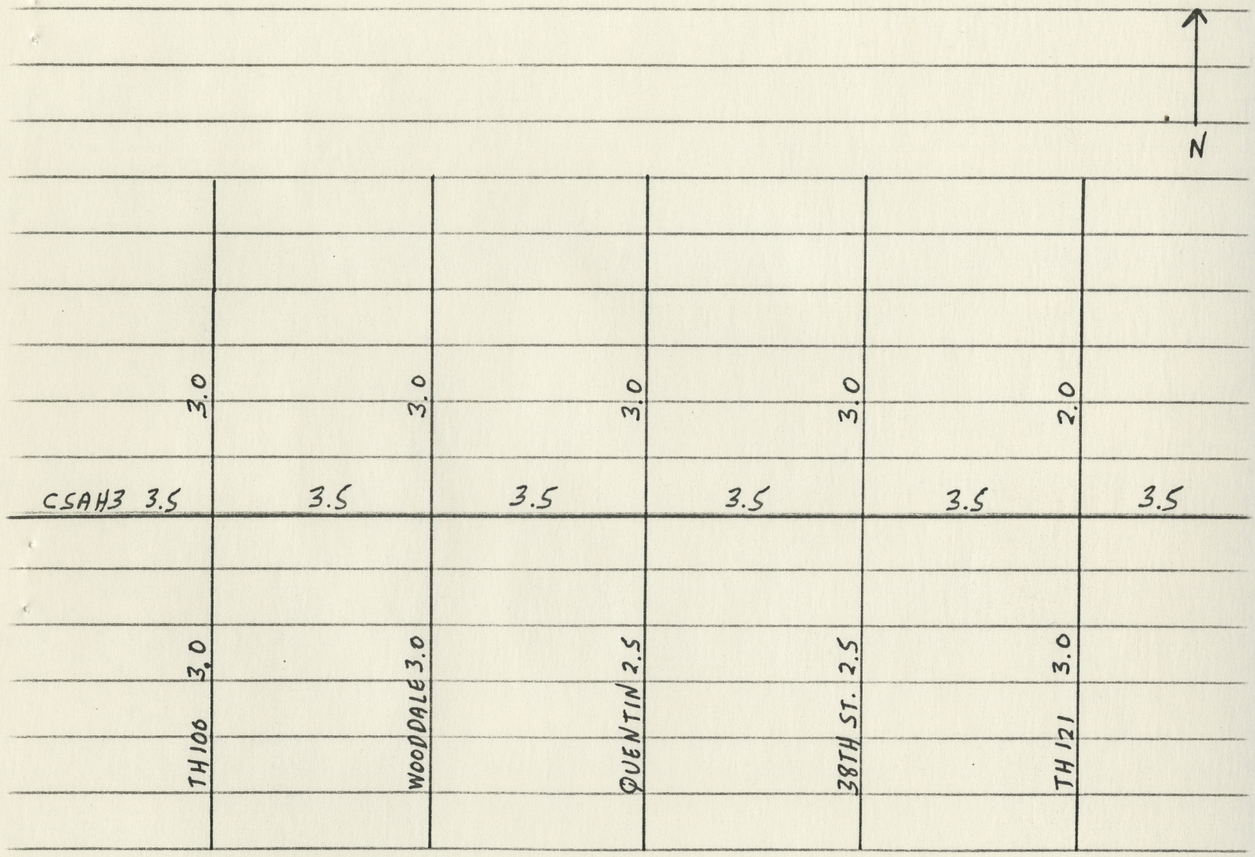
Analysis X

Traffic Count ____

COMMENTS: _____







TA-M319

FIGURE 1

CSAH3 - TH100 TO TH121

LEGEND

0.0 PERCENT HCAWDT

TABLE 1

CSAH3 EAST OF TH100 COUNT 5-17 THRU 19-1982 AVERAGE OF WEEKDAY COUNTS

	TIME	1 TOTAL	2 PERCENT	3 WEST BOUND PERCENT	4 EAST BOUND PERCENT	5	6	7	8
1	12M-1A	246	1.1	63	37				
2	1-2	193	0.8	59	41				
3	2-3	53	0.2	68	32				
4	3-4	45	0.2	42	58				
5	4-5	53	0.2	49	51				
6	5-6	145	0.6	48	52				
7	6-7	545	2.4	57	43				
8	7-8	1333	5.8	48	52				
9	8-9	1347	5.9	45	55				
10	9-10	1189	5.2	46	54				
11	10-11	1152	5.0	45	55				
12	11-12	1472	6.4	48	52				
13	12N-1P	1406	6.1	54	46				
14	1-2	1481	6.5	53	47				
15	2-3	1502	6.6	52	48				
16	3-4	1706	7.4	51	49				
17	4-5	1980	8.6	51	49				
18	5-6	2060	9.0	52	48				
19	6-7	1294	5.7	52	48				
20	7-8	1019	4.5	52	48				
21	8-9	866	3.8	53	47				
22	9-10	830	3.6	52	48				
23	10-11	574	2.5	56	44				
24	11-12	431	1.9	53	47				
25	TOTAL	22922	100.0	51	49				

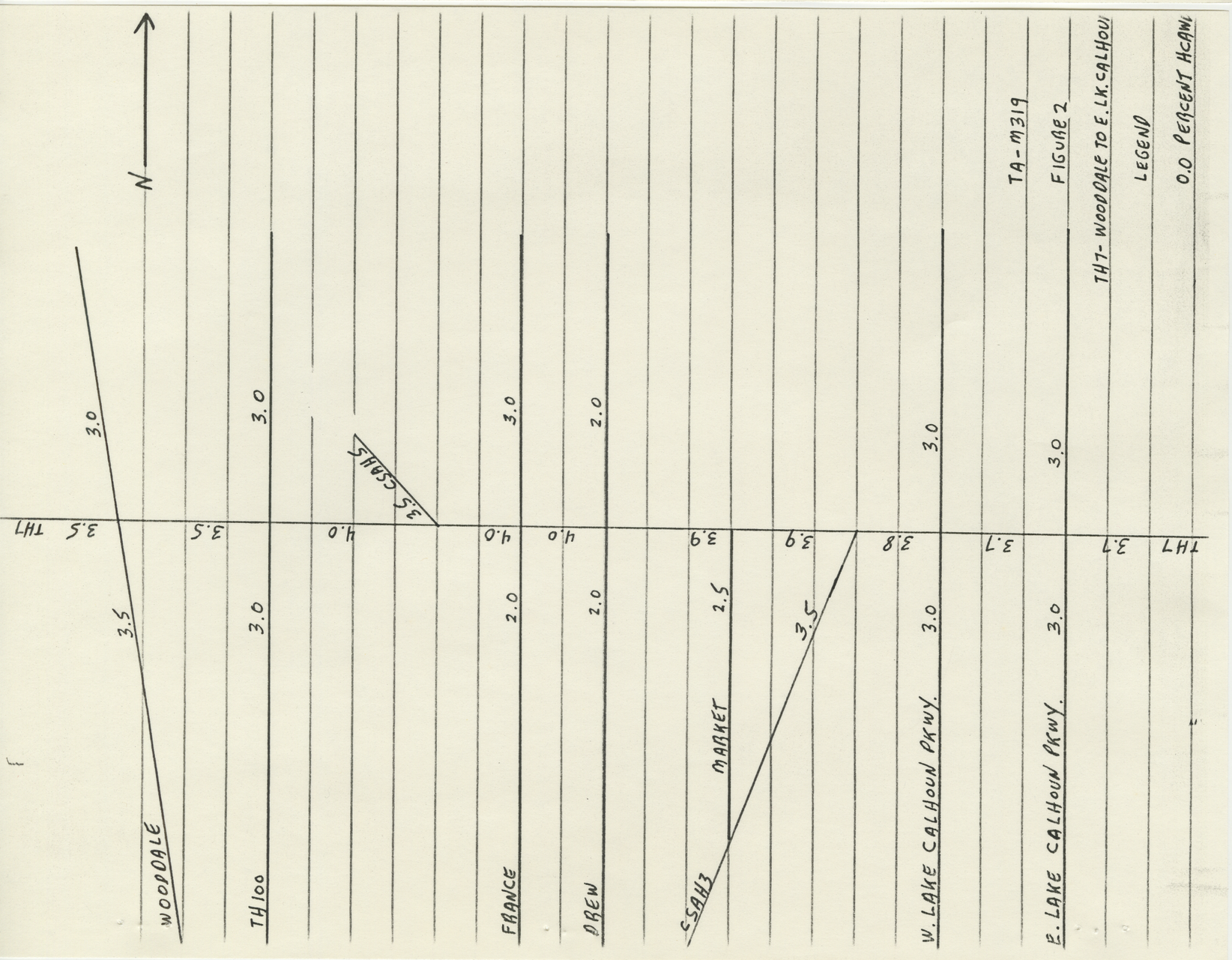


TABLE 3

TH7 WEST OF TH100 COUNT 5-4 THRU 6-1982 AVERAGE OF WEEKDAY COUNTS

	TIME	1 TOTAL	2 PERCENT	3 WEST BOUND PERCENT	4 EAST BOUND PERCENT	5	6	7	8	
1	12M-1A	216	0.8	56	44					1
2	1-2	135	0.5	53	47					2
3	2-3	70	0.3	40	60					3
4	3-4	54	0.2	37	63					4
5	4-5	63	0.3	51	49					5
6	5-6	239	0.9	57	43					6
7	6-7	1005	3.8	46	54					7
8	7-8	2276	8.5	39	61					8
9	8-9	1818	6.8	43	57					9
10	9-10	1421	5.3	47	53					10
11	10-11	1373	5.2	48	52					11
12	11-12	1525	5.7	51	49					12
13	12N-1P	1549	5.8	53	47					13
14	1-2	1607	6.0	50	50					14
15	2-3	1712	6.4	53	47					15
16	3-4	1956	7.3	57	43					16
17	4-5	2299	8.6	59	41					17
18	5-6	2251	8.4	58	42					18
19	6-7	1480	5.5	55	45					19
20	7-8	1072	4.0	51	49					20
21	8-9	865	3.2	49	51					21
22	9-10	803	3.0	50	50					22
23	10-11	547	2.0	48	52					23
24	11-12	391	1.5	50	50					24
25	TOTAL	26727	100.0	51	49					25

TABLE 2

CSAH3 WEST OF TH 121 COUNT 5-18 THRU 20-1982 AVERAGE OF WEEKDAY COUNTS

	TIME	1 TOTAL	2 PERCENT	3 WEST BOUND PERCENT	4 EAST BOUND PERCENT	5	6	7	8	
1	12M-1A	219	1.1	45	55					1
2	1-2	159	0.8	41	59					2
3	2-3	59	0.3	42	58					3
4	3-4	43	0.2	42	58					4
5	4-5	45	0.2	53	47					5
6	5-6	117	0.6	54	46					6
7	6-7	499	2.5	54	46					7
8	7-8	1334	6.8	47	53					8
9	8-9	1162	5.9	50	50					9
10	9-10	982	5.0	47	53					10
11	10-11	1022	5.2	46	54					11
12	11-12	1101	5.6	49	51					12
13	12N-1P	1116	5.7	51	49					13
14	1-2	1171	6.0	54	46					14
15	2-3	1204	6.2	52	48					15
16	3-4	1371	7.0	55	45					16
17	4-5	1803	9.2	54	46					17
18	5-6	1839	9.4	53	47					18
19	6-7	1127	5.8	52	48					19
20	7-8	901	4.6	48	52					20
21	8-9	739	3.8	50	50					21
22	9-10	711	3.6	49	51					22
23	10-11	516	2.6	51	49					23
24	11-12	373	1.9	48	52					24
25	TOTAL	19613	100.0	51	49					25

NATIONAL 45-608 EYE-EASE 45-708 20/20 BUFF Made in U.S.A.

TABLE 5 - MEDIUM, HEAVY TRUCK PERCENTAGES OF TWO WAY ADT BASED ON 1978 COUNTS

	TIME	CSAH 3 - E. OF TH 100		TH 7 W. OF TH 100	
		MEDIUM	HEAVY	MEDIUM	HEAVY
1	12-1 AM	1.6	0.0	1.4	0.5
2	1-2	1.6	0.0	2.1	0.0
3	2-3	0.0	0.0	0.0	0.0
4	3-4	0.0	0.0	0.0	0.0
5	4-5	0.6	0.0	0.0	0.0
6	5-6	2.0	0.0	1.3	0.4
7	6-7	2.7	1.2	1.7	1.1
8	7-8	2.0	0.6	2.2	1.5
9	8-9	2.6	0.6	3.1	2.3
10	9-10	2.6	1.3	3.2	2.1
11	10-11	3.6	0.7	3.8	1.9
12	11-12	2.9	0.7	3.6	2.1
13	12-1 PM	1.8	0.8	2.9	1.6
14	1-2	3.0	0.8	2.4	1.9
15	2-3	3.4	0.9	3.6	1.5
16	3-4	3.2	0.8	2.6	2.3
17	4-5	3.2	0.5	1.7	0.8
18	5-6	2.2	0.2	0.7	0.2
19	6-7	3.3	0.5	1.1	0.4
20	7-8	4.1	1.6	0.4	0.6
21	8-9	4.4	1.7	0.4	0.4
22	9-10	3.0	2.0	0.7	0.8
23	10-11	2.2	0.7	1.7	1.2
24	11-12	1.7	0.0	1.4	0.7

NATIONAL 45-608 EYE-EASE 45-708 20/20 BUFF Made in U.S.A.

TABLE 4

TH 7 EAST OF TH 100 COUNT 5-4 THRU 6-1982 AVERAGE OF WEEKDAY COUNTS

	TIME	1 TOTAL	2 PERCENT	3 WEST BOUND PERCENT	4 EAST BOUND PERCENT	5	6	7	8
1	12M-1A	167	0.9	51	49				
2	1-2	86	0.4	44	56				
3	2-3	39	0.2	44	56				
4	3-4	31	0.2	42	58				
5	4-5	25	0.1	36	64				
6	5-6	126	0.6	54	46				
7	6-7	588	3.0	41	59				
8	7-8	1860	9.6	32	68				
9	8-9	1356	7.0	37	63				
10	9-10	939	4.8	44	56				
11	10-11	867	4.5	48	52				
12	11-12	1065	5.5	46	54				
13	12N-1P	1034	5.3	50	50				
14	1-2	1061	5.5	48	52				
15	2-3	1161	6.0	52	48				
16	3-4	1622	8.3	59	41				
17	4-5	1959	10.1	59	41				
18	5-6	1897	9.8	60	40				
19	6-7	1048	5.4	54	46				
20	7-8	756	3.9	47	53				
21	8-9	575	2.9	42	58				
22	9-10	576	2.9	42	58				
23	10-11	375	1.9	45	55				
24	11-12	238	1.2	50	50				
25	TOTAL	19450	100.0	49	51				